Games Services Requirements Requirements

Candidate Version 1.0 – 16 Mar 2004

Open Mobile Alliance

OMA-RD_Games-Services-V1_0-20040316-C

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Contents

1. SCOPE (INFORMATIVE) 7
2. REFERENCES 8
   2.1 NORMATIVE REFERENCES 8
   2.2 INFORMATIVE REFERENCES 8
3. TERMINOLOGY AND CONVENTIONS 9
   3.1 CONVENTIONS 9
   3.2 DEFINITIONS 9
   3.3 ABBREVIATIONS 9
4. INTRODUCTION (INFORMATIVE) 10
5. USE CASES (INFORMATIVE) 11
   5.1 USE CASE A 11
      5.1.1 Short Description 11
      5.1.2 Actors 11
      5.1.3 Pre-conditions 11
      5.1.4 Post-conditions 11
      5.1.5 Normal Flow 11
      5.1.6 Alternative Flow 11
      5.1.7 Operational and Quality of Experience Requirements 11
   5.2 USE CASE B 12
      5.2.1 Short Description 12
      5.2.2 Actors 12
      5.2.3 Pre-conditions 12
      5.2.4 Post-conditions 12
      5.2.5 Normal Flow 12
      5.2.6 Alternative Flow 12
      5.2.7 Operational and Quality of Experience Requirements 12
   5.3 USE CASE C 13
      5.3.1 Short Description 13
      5.3.2 Actors 13
      5.3.3 Pre-conditions 13
      5.3.4 Post-conditions 13
      5.3.5 Normal Flow 13
      5.3.6 Alternative Flow 13
      5.3.7 Operational and Quality of Experience Requirements 13
   5.4 USE CASE D 14
      5.4.1 Short Description 14
      5.4.2 Actors 14
      5.4.3 Pre-conditions 14
      5.4.4 Post-conditions 14
      5.4.5 Normal Flow 14
      5.4.6 Alternative Flow 14
      5.4.7 Operational and Quality of Experience Requirements 14
   5.5 USE CASE E 15
      5.5.1 Short Description 15
      5.5.2 Actors 15
      5.5.3 Pre-conditions 15
      5.5.4 Post-conditions 15
      5.5.5 Normal Flow 15
      5.5.6 Alternative Flow 15
      5.5.7 Operational and Quality of Experience Requirements 15
   5.6 USE CASE F 16
      5.6.1 Short Description 16

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5.6.2 Actors....16
5.6.3 Pre-conditions....16
5.6.4 Post-conditions....16
5.6.5 Normal Flow....16
5.6.6 Alternative Flow....16
5.6.7 Operational and Quality of Experience Requirements....16
5.7 USE CASE G....17
5.7.1 Short Description....17
5.7.2 Actors....17
5.7.3 Pre-conditions....17
5.7.4 Post-conditions....17
5.7.5 Normal Flow....17
5.7.6 Alternative Flow....17
5.7.7 Operational and Quality of Experience Requirements....17
5.8 USE CASE H....18
5.8.1 Short Description....18
5.8.2 Actors....18
5.8.3 Pre-conditions....18
5.8.4 Post-conditions....18
5.8.5 Normal Flow....18
5.8.6 Alternative Flow....19
5.8.7 Operational and Quality of Experience Requirements....19
5.9 USE CASE I....20
5.9.1 Short Description....20
5.9.2 Actors....20
5.9.3 Pre-conditions....20
5.9.4 Post-conditions....20
5.9.5 Normal Flow....20
5.9.6 Alternative Flow....20
5.9.7 Operational and Quality of Experience Requirements....20
5.10 USE CASE J....21
5.10.1 Short Description....21
5.10.2 Actors....21
5.10.3 Pre-conditions....21
5.10.4 Post-conditions....21
5.10.5 Normal Flow....21
5.10.6 Alternative Flow....21
5.10.7 Operational and Quality of Experience Requirements....21
5.11 USE CASE K....22
5.11.1 Short Description....22
5.11.2 Actors....22
5.11.3 Pre-conditions....22
5.11.4 Post-conditions....22
5.11.5 Normal Flow....22
5.11.6 Alternative Flow....22
5.11.7 Operational and Quality of Experience Requirements....22
5.12 USE CASE L....23
5.12.1 Short Description....23
5.12.2 Actors....23
5.12.3 Pre-conditions....23
5.12.4 Post-conditions....23
5.12.5 Normal Flow....23
5.12.6 Alternative Flow....23
5.12.7 Operational and Quality of Experience Requirements....23
5.13 USE CASE M....24
5.13.1 Short Description....24
5.13.2 Actors....24

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5.13.3 Pre-conditions 24
5.13.4 Post-conditions 24
5.13.5 Normal Flow 24
5.13.6 Alternative Flow 24
5.13.7 Operational and Quality of Experience Requirements 24
5.14 USE CASE N 25
5.14.1 Short Description 25
5.14.2 Actors 25
5.14.3 Pre-conditions 25
5.14.4 Post-conditions 25
5.14.5 Normal Flow 25
5.14.6 Alternative Flow 25
5.14.7 Operational and Quality of Experience Requirements 25
5.15 USE CASE O 26
5.15.1 Short Description 26
5.15.2 Actors 26
5.15.3 Pre-conditions 26
5.15.4 Post-conditions 26
5.15.5 Normal Flow 26
5.15.6 Alternative Flow 26
5.15.7 Operational and Quality of Experience Requirements 26
5.16 USE CASE P 27
5.16.1 Short Description 27
5.16.2 Actors 27
5.16.3 Pre-conditions 27
5.16.4 Post-conditions 27
5.16.5 Normal Flow 27
5.16.6 Alternative Flow 27
5.16.7 Operational and Quality of Experience Requirements 27
5.17 USE CASE Q 28
5.17.1 Short Description 28
5.17.2 Actors 28
5.17.3 Pre-conditions 28
5.17.4 Post-conditions 28
5.17.5 Normal Flow 28
5.17.6 Alternative Flow 28
5.17.7 Operational and Quality of Experience Requirements 28
5.18 USE CASE R 29
5.18.1 Short Description 29
5.18.2 Actors 29
5.18.3 Pre-conditions 29
5.18.4 Post-conditions 29
5.18.5 Normal Flow 29
5.18.6 Alternative Flow 29
5.18.7 Operational and Quality of Experience Requirements 29
5.19 OPEN ISSUES 30
6. REQUIREMENTS (NORMATIVE) 31
6.1 HIGH-LEVEL FUNCTIONAL REQUIREMENTS 31
6.1.1 Security 31
6.1.2 Charging 31
6.1.3 Administration and configuration 31
6.1.4 Usability 31
6.1.5 Interoperability 31
6.1.6 Privacy 32
6.2 OVERALL SYSTEM REQUIREMENTS 32
6.3 SYSTEM ELEMENTS 32
6.3.1 Game Client 32

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6.3.2 Game Platform 32
6.3.3 Network interfaces 33
APPENDIX A. CHANGE HISTORY (INFORMATIVE) 34
A.1 APPROVED VERSION HISTORY 34
A.2 DRAFT/CANDIDATE VERSION 1.0 HISTORY 34

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1. Scope (Informative)

This document presents the requirements for the Gaming Platform, regarding billing, lobbying, highscore and persistency.

This document refers to the minimum requirements, for the first version of the OMA Games Platform 2.0 specification, regarding billing, lobbying, highscore and persistency.

The requirements makes sure that it is possible to charge for both games downloaded and also charge for extra levels or other features the game can offer.

The requirements make sure that it is possible to play games with other players and connect to a game server.

The requirements make it possible to easy collect and distribute highscore tables from a game server.

The requirements also makes it possible for the server to let other players in a game be informed and take action, if a player leaves a game.

All in all, these are the minimum requirements, which will allow an implementation of a multiplayer platform, with focus on turn based games.

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2. References

2.1 Normative References

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels". S. Bradner. March 1997.
URL:http://www.ietf.org/rfc/rfc2119.txt

2.2 Informative References

None.

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3. Terminology and Conventions

3.1 Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except “Scope” and “Introduction”, are normative, unless they are explicitly indicated to be informative.

3.2 Definitions

None.

3.3 Abbreviations

None.

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4. Introduction (Informative)

This document refers to the minimum requirements, for the first version of the OMA Games Platform 2.0 specification, regarding billing, lobbying, highscore and persistency.

The requirements makes sure that it is possible to charge for both games downloaded and also charge for extra levels or other features the game can offer.

The requirements make sure that it is possible to play games with other players and connect to a game server.

The requirements make it possible to easy collect and distribute highscore tables from a game server.

The requirements also makes it possible for the server to let other players in a game be informed and take action, if a player leaves a game.

All in all, these are the minimum requirements, which will allow an implementation of a multiplayer platform, with focus on turn based games.

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5. Use Cases (Informative)

5.1 Use Case A

5.1.1 Short Description

Basic Download Free – limited rights whilst stored in device

5.1.2 Actors

John – User

Game Service Provider

5.1.2.1 Actor Specific Issues

John wants to play a new game

5.1.2.2 Actor Specific Benefits

John gets to play a game for free

5.1.3 Pre-conditions

John must have a handset, capable of downloading and executing applications. The game service provider must be aware of handset capabilities.

5.1.4 Post-conditions

The game is stored (for free) in John's device for future use.

5.1.5 Normal Flow

John wants to play a new game on his handset but he doesn't want to spend any money. He uses his device's browser to enter the Game Service Provider's portal site and selects the link to "free games". John is only shown games, which are compatible with his handset and are free to download without additional application charges. John browses the list and selects "AstroFOMA". He clicks the link and the OTA download commences. The game is stored in John's device for future use.

5.1.6 Alternative Flow

None.

5.1.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to download, store and execute applications on the handset.

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5.2 Use Case B

5.2.1 Short Description

Basic Download Paid – limited rights whilst stored in device

5.2.2 Actors

Peter – user

Game Service Provider

5.2.2.1 Actor Specific Issues

Peter wants to play a new game on his handset, and is willing to pay

5.2.2.2 Actor Specific Benefits

Peter gets to play a game, after a payment.

5.2.3 Pre-conditions

Peter must have a handset, capable of downloading and executing applications. The game service provider must be aware of handset capabilities.

5.2.4 Post-conditions

The game is stored in Peter's device for future use, and he had to pay for the game.

5.2.5 Normal Flow

Peter wants to play a new game on his handset and he is prepared to pay in order to have a great new game he read about in the press.

1. Peter uses his device's browser to enter the Game Service Provider's portal site and selects the link to "great new games".
2. Peter is only shown games, which are compatible with his handset. Each listing shows the price Peter will be charged.
3. Peter selects "OMADevil".
4. Peter is asked to confirm to pay a certain amount. He agrees to the charge.
5. He clicks the link and the OTA download commences.
6. The game is stored in Peter's device for future use.

5.2.6 Alternative Flow

None.

5.2.7 Operational and Quality of Experience Requirements

It must be easy and seamless for the user to download, store, pay for and execute the applications on the handset.

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5.3 Use Case C

5.3.1 Short Description

Basic Download Free of charge – limited number of plays without upgrade possibility

5.3.2 Actors

John – user

Game Service Provider

5.3.2.1 Actor Specific Issues

John wants to try and play a new game on his handset for free

5.3.2.2 Actor Specific Benefits

John gets to try out new games for free a couple of times

5.3.3 Pre-conditions

John must have a handset, capable of downloading and executing applications, and save status information on the handset as well. The game service provider must be aware of handset capabilities.

5.3.4 Post-conditions

John will have an application on the handset, which he cannot use anymore, and will finally have to delete it.

5.3.5 Normal Flow

John wants to play a new game on his handset but he doesn't want to spend any money.

1. John uses his device's browser to enter the Game Service Provider's portal site and selects the link to "free games".
2. John is only shown games, which are compatible with his handset and are free to download without additional application charges.
3. John browses the list and selects "Pacmanny" which is listed as "limited plays only".
4. John clicks the link and the OTA download commences.
5. The game is stored in John's device for future use.
6. The game or device will count the number of times John plays the game. When the limit is reached, the device or game will not permit John to play it anymore.
7. John will need to delete the game from his device.

5.3.6 Alternative Flow

None.

5.3.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to download, store, execute and delete the applications on the handset.

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5.4 Use Case D

5.4.1 Short Description

Basic Download Free of charge – limited time (e.g. play a limited amount of time, play until a specific time (e.g. date) is reached, etc.) usage without upgrade possibility

5.4.2 Actors

Peter – user

Game Service Provider

5.4.2.1 Actor Specific Issues

Peter wants to play a new game on his handset for free

5.4.2.2 Actor Specific Benefits

Peter gets to try and play a new game for free in a limited time period.

5.4.3 Pre-conditions

Peter must have a handset, capable of downloading and executing applications, and save status information on the handset as well. The game service provider must be aware of handset capabilities.

5.4.4 Post-conditions

Peter will have an application on the handset, which he cannot use anymore, and will finally have to delete it.

5.4.5 Normal Flow

Peter wants to play a new game on his handset but he doesn't want to spend any money.

- Peter uses his device's browser to enter the Game Service Provider's portal site and selects the link to "free games".
- Peter is only shown games, which are compatible with his handset and are free to download without additional application charges.
- Peter browses the list and selects "Pacmanny" which is listed as "trial period only".
- Peter clicks the link and the OTA download commences.
- The game is stored in Peter's device for future use.
- The game or device will always check the limited time (e.g. play a limited amount of time, play until a specific time (e.g. date) is reached, etc.) setting, at each occasion Peter starts the game.
- If the agreed limited time is reached, the device or game will not permit Peter to play it anymore

5.4.6 Alternative Flow

None.

5.4.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to download, store, execute and delete the applications on the handset.

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5.5 Use Case E

5.5.1 Short Description

Basic Download Paid – limited number of plays without upgrade possibility

5.5.2 Actors

Mary – user

Game Service Provider

5.5.2.1 Actor Specific Issues

Mary wants to play the latest game on her handset, and is willing to pay for a certain amount of plays.

5.5.2.2 Actor Specific Benefits

Mary gets to pay and thereby play the new game a couple of times.

5.5.3 Pre-conditions

Mary must have a handset, capable of downloading and executing applications, and save status information on the handset as well. The game service provider must be aware of handset capabilities.

5.5.4 Post-conditions

Mary will have an application on the handset, which she cannot use anymore, and will finally have to delete it.

5.5.5 Normal Flow

Mary wants to play a latest game on her handset and she is prepared to pay to have a top name title.

- Mary uses her device's browser to enter the Game Service Provider's portal site and selects the link to "top new games".
- Mary is only shown games, which are compatible with her handset.
- She browses the list and selects "Dare OMA" which is listed as "limited plays only".
- She clicks the link and the OTA download commences.
- The game is stored in Mary's device for future use.
- The game or device will count the number of times Mary plays the game.
- When the limit is reached, the device or game will not permit Mary to play it any more.

5.5.6 Alternative Flow

None

5.5.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to download, store, pay, execute and delete the applications on the handset.

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5.6 Use Case F

5.6.1 Short Description

Basic Download Paid – limited time usage (e.g. play a limited amount of time, play until a specific time (e.g. date) is reached, etc.) without upgrade possibility

5.6.2 Actors

Jane – user

Game Service Provider

5.6.2.1 Actor Specific Issues

Jane wants to play a new game on her handset, and she is willing to pay for a certain amount of time.

5.6.2.2 Actor Specific Benefits

Jane gets to play the new game for a limited amount of time, for a certain amount of payment.

5.6.3 Pre-conditions

Jane must have a handset, capable of downloading and executing applications, and save status information on the handset as well. The game service provider must be aware of handset capabilities.

5.6.4 Post-conditions

Jane will have an application on the handset, which she cannot use anymore, and will finally have to delete it.

5.6.5 Normal Flow

Jane wants to play a new game on her handset she is prepared to pay to have a latest top title.

- Jane uses her device's browser to enter the Game Service Provider's portal site and selects the link to "top new games".
- Jane is only shown games, which are compatible with her handset.
- She browses the list and selects "Dare Devil" which is listed as "trial period only".
- She clicks the link and the OTA download commences.
- The game is stored in Jane's device for future use.
- The game or device will check the limited time setting (e.g. play a limited amount of time, play until a specific time (e.g. date) is reached, etc.), at each occasion Jane starts the game.
- If the agreed limited time is reached, the device or game will not permit Jane to play the game any more.

5.6.6 Alternative Flow

None

5.6.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to download, store, pay, execute and delete the applications on the handset.

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5.7 Use Case G

5.7.1 Short Description

Free Download – pay-per-play

5.7.2 Actors

Ron – user

Game Service Provider

5.7.2.1 Actor Specific Issues

Ron wants to play a game from the games collection and is willing to pay for each time he plays.

5.7.2.2 Actor Specific Benefits

Ron gets to play a game, and only pays to play it once.

5.7.3 Pre-conditions

Ron must have a handset, capable of downloading and executing applications, and save status information on the handset as well. The game service provider must be aware of handset capabilities.

5.7.4 Post-conditions

Ron will have an application on his device, which he will have to pay to start each time he wants to use it.

5.7.5 Normal Flow

Ron wants to play a game from the games collection.

- Ron uses his device browser to access the Game Service Provider's portal and selects the "Pay-per-play Games".
- He is only shown games, which are compatible with his device. Each game is listed with the per play fee.
- Ron selects "War Stars III" and the OTA download to his device commences.
- Each time Ron starts the game he is asked to confirm that he will pay e.g. 10 cents.
- When he accepts the charge, Ron will be billed for the usage of the game on his next phone bill.
- .

5.7.6 Alternative Flow

None

5.7.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to download, store, execute and pay for the applications on the handset, when used.

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5.8 Use Case H

5.8.1 Short Description

Paid subscription giving unlimited download – limited subscription time usage

5.8.2 Actors

Jane – user

Game Service Provider

5.8.2.1 Actor Specific Issues

Jane wants to play a new game, and is willing to pay a subscription fee, lasting for a certain amount of time.

5.8.2.2 Actor Specific Benefits

Jane gets to play the game for a certain amount of time, paying a fee.

5.8.3 Pre-conditions

Jane must have a handset, capable of downloading and executing applications, and save status information on the handset as well. The game service provider must be aware of handset capabilities.

5.8.4 Post-conditions

Jane will have an application on the handset, which she can only use if she renews her subscription fee.

5.8.5 Normal Flow

Jane has heard about a great new family life simulation game, which all her friends are playing. It is only available by subscription.

- Jane uses her device's browser to enter the Game Service Provider's portal site and selects the link to "subscription simulation games". Jane is only shown games, which are compatible with her handset.
- She browses the list and selects "Simulies".
- She clicks the link and is presented with a screen that informs her that "Simulies" costs $3 per month and her phone bill will be charged accordingly. She agrees to the charge. There is no additional charge for the download.
- The OTA download commences.
- The game is stored in Jane's device for future use.
- The game or device will check with the game platform when starting the game to insure that Jane's subscription is paid up-to-date.
- If the subscription is no longer valid, the game will advice Jane that she must renew her payment before the game will work again.
- Later Jane is bored with the game and she decides to cancel the subscription. Jane's subscription expires and the game no longer works.
- Jane decides to delete the game from her device.

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5.8.6 Alternative Flow

None

5.8.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to download, store, execute, pay and renew a subscription for the applications on the handset.

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5.9 Use Case I

5.9.1 Short Description

Basic Download Free of charge – limited number of plays, time or functionality with upgrade possibility

5.9.2 Actors

John – user

Game Service Provider

5.9.2.1 Actor Specific Issues

John wants to try and play a new game on his handset for free

5.9.2.2 Actor Specific Benefits

John gets to try out new games for free a couple of times

5.9.3 Pre-conditions

John must have a handset, capable of downloading and executing applications, and save status information on the handset as well. The game service provider must be aware of handset capabilities.

5.9.4 Post-conditions

John will have an application on the handset, with limited functionality.

5.9.5 Normal Flow

John wants to play a new game on his handset but he doesn't want to spend any money.

1. John uses his device's browser to enter the Game Service Provider's portal site and selects the link to "free games".
2. John is only shown games, which are compatible with his handset and are free to download without additional application charges.
3. John browses the list and selects "Pacmanny" which is listed as "limited plays only".
4. John clicks the link and the OTA download commences.
5. The game is stored in John's device for future use.
6. When the trial-limit is reached, or John tries to access locked functionality, the device or game will not permit it to John.
7. The game asks John if he wants to pay for the upgrade of the game.
8. John pays, and now can play the game all he wants.

5.9.6 Alternative Flow

None.

5.9.7 Operational and Quality of Experience Requirements

- **It must be easy and seamless for the user to download, store, execute and delete the applications on the handset.**

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5.10 Use Case J

5.10.1 Short Description

Random matching of players

5.10.2 Actors

Alice – user

The blue king – user

Game Service Provider

5.10.2.1 Actor Specific Issues

Alice wants to play the game.

The blue king also wants to play the game.

5.10.2.2 Actor Specific Benefits

Alice and the blue king are both able to play against each other, without knowing each other.

5.10.3 Pre-conditions

Alice must have a handset, capable of downloading and executing applications. The game she is playing must be in contact with a game server. The game service provider must be aware of handset capabilities.

5.10.4 Post-conditions

Alice and the blue king will play the game against each other.

5.10.5 Normal Flow

- Alice has just finished downloading the new Mini-Golf game.
- She starts the game from her handset and selects the head-to-head option.
- After a while, a message telling her she was matched with “the blue king” is displayed.
- After acknowledging that she is willing to play with him, the game starts.

5.10.6 Alternative Flow

None.

5.10.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to be appointed a game partner by the game server.

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5.11 Use Case K

5.11.1 Short Description

Waiting to be randomly matched up with someone to start a game

5.11.2 Actors

Bob – user

Game Service Provider

5.11.2.1 Actor Specific Issues

Bob wants to play a game, but only with other players on his level (with the same skills)

5.11.2.2 Actor Specific Benefits

Bob gets a better user experienceof playing with players on his level and with the same skills as he has.

5.11.3 Pre-conditions

Bob must have a handset, capable of executing applications. The game he is playing must be in contact with a game server. The game service provider must be aware of handset capabilities.

5.11.4 Post-conditions

Bob plays a game with persons having the same skills as himself.

5.11.5 Normal Flow

- Bob runs a game on his device.
- He sees that there are 3 waiting rooms titled: “the grand hall”, “the experts” and “start here”.
- As he beleievs he is class expert, he selects “the experts”.
- He is randomly matched to another player that already waits in this room, and the game begins.

5.11.6 Alternative Flow

None

5.11.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to be appointed a game partner by the game server.

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5.12 Use Case L

5.12.1 Short Description

Joining an on-going Games Session

5.12.2 Actors

Perri – user

Game Service Provider

5.12.2.1 Actor Specific Issues

Perri wants to play a game where other players are present.

5.12.2.2 Actor Specific Benefits

Perri does not need to go into a game where there are no other players, if other games exist, which he can join, that has other online players.

5.12.3 Pre-conditions

Perri must have a handset, capable of executing applications. The game he wants to play must be in contact with a game server. The game service provider must be aware of handset capabilities.

5.12.4 Post-conditions

Perri will play the game he chose.

5.12.5 Normal Flow

There are 3 “Pirates’ lord“ games running called “Pacific”, “Atlantic” and “Mediterranean”. Each is a massive multiplayer world where pirates conquer islands from each other.

- Perri starts the game on his handset and sees the number of players in each world.
- He sees that Atlantic has 100 players in it out of which 10 are on-line, so he selects it.
- Perri enters the game and starts roaming the ocean for an uninhibited island.

5.12.6 Alternative Flow

None

5.12.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to chose between different instnaces of games available on the server

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5.13 Use Case M

5.13.1 Short Description

Joining an on-going session following a notification

5.13.2 Actors

Perri – user

Game Service Provider

5.13.2.1 Actor Specific Issues

Perri wants to be able to protect 'his' island in a game, even though he is not online.

5.13.2.2 Actor Specific Benefits

Perri can feel sure, that he will not miss any action, concerning 'his properties' in the game, even though he is not active in the game all the time.

5.13.3 Pre-conditions

Perri must have a handset, capable of executing applications, and which has SMS activated. The game he wants to play must be in contact with a game server. The game service provider must be aware of handset capabilities.

5.13.4 Post-conditions

Perri will enter the game.

5.13.5 Normal Flow

Perri gets a message that his island is under attack. He immediately launches the Pirates' Lord game on his handset, connects to the world he is active in and goes to protect his island.

5.13.6 Alternative Flow

None

5.13.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to enter a game already stored on the handset and retreive 'his' profile from the server.

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5.14 Use Case N

5.14.1 Short Description

Checking out the 'global' highscore table from the server

5.14.2 Actors

Axel – user

Game Service Provider

5.14.2.1 Actor Specific Issues

Axel wants to see what the highscore is, he has to beat, to get on the global highscore table.

5.14.2.2 Actor Specific Benefits

Axel can compare his own achievements in the game with people from all over the world.

5.14.3 Pre-conditions

Axel needs a handset that is connected to the game server, and is able to show highscore lists. The game service provider must be aware of handset capabilities.

5.14.4 Post-conditions

Axel will be able to view the highscore list on his handset

5.14.5 Normal Flow

Axel starts the game "Super Dog Poo", and selects the option 'global highscore' from the game menu. Axel is now presented with a list of the top ten players, who have collected the most poo, and who have submitted the highscore to the server-list.

5.14.6 Alternative Flow

None

5.14.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to retreive and show the highscore list for a certain game.

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5.15 Use Case O

5.15.1 Short Description

Saving a score on the server highscore list.

5.15.2 Actors

Peter – user

Game Service Provider

5.15.2.1 Actor Specific Issues

Peter wants his highscore saved on the game server.

5.15.2.2 Actor Specific Benefits

Peter will feel that he is playing against the whole world, when his score is being paced on a global highscore list.

5.15.3 Pre-conditions

Axel needs a handset that is connected to the game server, and is able to store highscores. The game service provider must be aware of handset capabilities.

5.15.4 Post-conditions

Peters highscore will be stored on the game server highscore list.

5.15.5 Normal Flow

Peter has just finished the “Super Dog Poo” game, and wants to save his highscore, so everyone can see that he collected the most poo. He selects the option ‘Send highscore to server’ and the highscore, together with the entered user-name, is sent to the server and stored there.

5.15.6 Alternative Flow

None

5.15.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to store a score for a certain game on the game server.

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5.16 Use Case P

5.16.1 Short Description

Persistency during network loss

5.16.2 Actors

Annika – user

Birgit – user

Game Service Provider

5.16.2.1 Actor Specific Issues

Annika and Birgit wants to resume the game, if interupted by a bad network coverage.

5.16.2.2 Actor Specific Benefits

The two players can enjoy playing, and do not have to worry to much about staying 'inside' network coverage

5.16.3 Pre-conditions

Annika needs a handset that is connected to the game server, and which can automatically reconnect, if interupted due to loss of coverage. The game service provider must be aware of handset capabilities.

5.16.4 Post-conditions

The game continues after the coverage is regained.

5.16.5 Normal Flow

Annika sits in a train and plays a combat game with Birgit, and due to entering a very remote area, looses network connection. When Annika again gets connection to the network, she starts the game again, and continues the game with Birgit, who has been sitting and waiting for Annika to continue.

5.16.6 Alternative Flow

None

5.16.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to reconnect to a game, if interupted due to loss of coverage.

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5.17 Use Case Q

5.17.1 Short Description

Option to quit the game if the opponent is gone due to loss of coverage

5.17.2 Actors

Carsten – user

Dennis – user

Game Service Provider

5.17.2.1 Actor Specific Issues

Carsten does not want to wait 'forever' until Dennis gets into coverage again, to complete the game. Neither does he want to be ruled as 'quitter' if he leaves.

5.17.2.2 Actor Specific Benefits

It will be possible to start games with people in weak coverage areas, without having to worry about beeing stuck in a game, you cannot leave.

5.17.3 Pre-conditions

Carsten needs a handset that is connected to the game server. The game service provider must be aware of handset capabilities.

5.17.4 Post-conditions

Carsten 'finishes' the game in orderly manner and can start a new game with another player.

5.17.5 Normal Flow

Carsten is playing "Shoot the Smurf" with Dennis, and Carsten is winning the game. Suddenly Dennis disappears, due to loss of coverage, and Carsten has the opportunity to either end the game (as he is the only one left), or wait until Dennis gets back online. Carsten decides to press end, and the game itself decides, if he can be declared the winner.

5.17.6 Alternative Flow

None

5.17.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to quit a game, if interupted due to loss of coverage.

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5.18 Use Case R

5.18.1 Short Description

Indication of oponent getting a phone call

5.18.2 Actors

Erik – user

Frederik – user

Game Service Provider

5.18.2.1 Actor Specific Issues

Erik wants to finish the game ‘decently’, by waiting for Frederik to finish his incomming call and beat him.

5.18.2.2 Actor Specific Benefits

Through oponent indications, you know your oponent is busy with other things, and has not just abandoned you.

5.18.3 Pre-conditions

Carsten needs a handset that is connected to the game server. The game service provider must be aware of handset capabilities.

5.18.4 Post-conditions

The game continues after the call.

5.18.5 Normal Flow

Erik is playing “Hurricane” and is winning against Frederik. Suddenly Erik receives an incoming call, and his game is put on hold. Frederik can see this on his display, and gets the opportunity to wait, until Erik is finished talking, or leaving the game. Frederik chooses to stay and wait, and beats Erik after he returns from his call.

5.18.6 Alternative Flow

None

5.18.7 Operational and Quality of Experience Requirements

- It must be easy and seamless for the user to see the status of the oponent, if the oponent for some reason is not using the handset to play with anymore.

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5.19 Open Issues

These are just the minimum set of use cases for the Gaming Platform 2.0.

More elaborate and advanced use cases will be created for the following future releases of OMA GP.

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6. Requirements (Normative)

6.1 High-Level Functional Requirements

The gaming platform SHALL cover the following requirements:

- The ability for users to be able to pay for a downloaded content, in this case a game, when chosing it in the browser.
- The ability to count the number of times the game has been activated on the handset.
- The ability to check for the time and date.
- The ability to charge the user an amount, when the game is started.
- The ability to charge the user, whilst playing the game, amounts for different services.
- The ability for users to find someone to play with.
- The ability to connect to the server, where lobbying/matchmaking is taking place (that might be 2 player games or multi player worlds).
- The ability to collect a highscore list from the server
- The ability to send a request to the server with en entry to a highscore list, stored on the server.
- The ability for games to be informed about other players leaving the game, and if possible, the reason (loss of coverage, phonecall, pressing exit, etc.).
- The ability for a gaming platform to support as a minimum turned based games (round robin and simultaneous movement).

6.1.1 Security

The interaction with the game platform should be secure if appropriate.

6.1.2 Charging

A secure method is needed for payments, when downloading a game, and also when the game is executing on the handset, to be able to charge for different services.

Users are able to confirm to pay a certain amount.

6.1.3 Administration and configuration

None.

6.1.4 Usability

Should be seamless for the user.

6.1.5 Interoperability

The protocol used shall not be confined to a specific gaming platform implementation, but shall be able to be used by all gaming devices, connecting to a gaming platform.

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6.1.6 Privacy

Users are able to see other player's properties only according to the users defined policy, for example as defined in the game; esp. players MSISDN is confidential.

6.2 Overall System Requirements

<text>

6.3 System Elements

The system has the following elements:

1. Game client
2. Game platform

6.3.1 Game Client

The game client must support :

- The ability to browse for content.
- The ability to download applications/content, both from a browser, but also from other applications.
- The ability to securely count the number of times an application has been activated.
- The ability to securely measure the time since the application was activated first time.

6.3.1.1 Interfaces to the game platform

The interface from the game client to the game platform includes:

- The ability to acknowledge to the server, that the download went well, so payment can be handled.
- The ability to ask the game platform for an opponent.
- The ability to send a score to the game platform
- The ability to receive a highscore list from the game platform and present it to the user.
- The ability to receive notifications from the game platform regarding other players.

6.3.2 Game Platform

The game platform must support:

- The handling of the static data, that needs to be distributed to game clients on request.

6.3.2.1 Interfaces to the game client

The interface from the game platform to the game client includes:

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- The ability to acknowledge a download complete message, so payment can be handled.
- The ability to appoint an opponent when requested.
- The ability to receive scores, to be stored in a highscore list
- The ability to deliver a highscore list.
- The ability to deliver notifications to other players in multiuser games, when other players drop out (for one reason or the other).

6.3.3 Network interfaces

The protocol between the handset and the server of the GP, can for example be based on HTTP, TCP or UDP.

The protocol should be optimised in terms of size and performance.

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Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Version 0.1	07 Nov 2003	All	First draft
Candidate Version OMA-RD_Games-Services-V1_0	16 Mar 2004	n/a	Status changed to Candidate by TP TP ref # OMA-TP-2004-0071R01-LATE-Games-services-RD-Package-for-Approval

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